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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of:	)	
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	CC Docket No. 97-160
	)	DA 98-1587
Forward-Looking Mechanism for High Cost Support for Non-Rural LECs	)	
	)	

REPLY OF GTE

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September 11, 1998

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REPLY OF GTE

GTE Service Corporation and its affiliated domestic telephone operating companies (collectively "GTE")[1] respectfully submit their Reply to the Common Carrier Bureau's Public Notice in the above-captioned proceedings.[2] The parties continue to argue over the best way "to model" a network in order to estimate costs accurately. GTE maintains that an auction mechanism is a more efficient and reliable way to calculate and distribute universal service funding. Until such a mechanism can be put

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[1] GTE Alaska, Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, The Micronesian Telecommunications Corporation, GTE Midwest Incorporated, GTE North Incorporated, GTE Northwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., GTE West Coast Incorporated, and Contel of the South, Inc.

[2] Common Carrier Bureau Seeks Comment On Model Platform Development, CC Docket Nos. 96-45, 97-160 (Public Notice) (rel. Aug. 7, 1998) ("Public Notice"). GTE's proposal in these comments in no manner prejudices its positions set forth in its appeal of the Commission's universal service order. *See Texas Office of Public Utility Counsel v. FCC*, No. 97-60421 (5th Cir.) (*"Texas Ofc. Of Pub. Util. Counsel"*).

into place, the Commission should use a BCPM-based model, but consider using some parts of HCPM.

I. INTRODUCTION AND SUMMARY

As GTE explained in its Comments, HCPM is not a complete model, only includes test data, and does not have adequate documentation.[3] Thus, a complete and informed evaluation is not possible. However, as described in GTE's Comments and herein, there are several aspects of HCPM that may be useful if combined with parts of BCPM. In particular, GTE believes that computing customer location using reliable geocoded data when available and the BCPM methodology for more rural areas where geocoding is less successful would be an improvement over either just BCPM's or the HAI Model's customer location modules. In addition, the many user-adjustable inputs included in HCPM would allow significant carrier-specific information to be used, making the Model more responsive to the differences among carriers and areas of the country.

Nonetheless, there are several aspects of HCPM which concern GTE.[4] Since Maryland is the one state for which HCPM test data is available, Bell Atlantic was able to compare HCPM's results with actual data for each Maryland wire center. It is

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[3] Comments of GTE, CC Docket Nos. 96-45, 97-160 at 12-15 (filed Aug. 28, 1998) ("GTE Comments").

[4] GTE noted in its initial comments that HCPM modeled a network including copper T-1 technology, which is not compatible the deployment of advanced services. GTE Comments at 13. However, technology that is compatible with advanced services, such as ADSL, can easily be substituted for the T-1 technology currently used in HCPM.

extremely troubling that this analysis showed "unexplainable variations at the wire center level in the number of lines and the average loop lengths, and that [HCPM] model outputs are contrary to the results one would expect based on the bureau's design methodology."[5] Before HCPM can be seriously considered, further review is essential and more information must be made available.

Although AT&T continues to tout the benefits of the HAI Model,[6] it has not refuted the numerous problems noted by GTE and other commenters. Nor has it explained how the Model can undergo so many changes while continuing to produce the same results. As GTE has shown in its pleadings throughout this proceeding, BCPM models a more realistic network and produces more reliable estimates of the costs of providing universal service.

Ben Johnson Associates ("BJA")[7] and Western Wireless[8] each propose models which have not been considered in this proceeding. The Common Carrier Bureau made clear that "February 6, 1998 shall be the deadline for filing revised versions of models in this proceeding."[9] However, if the Commission chooses to consider these

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[5] Comments of Bell Atlantic on Model Platform, CC Docket Nos. 96-45, 97-160 at 1 (filed Aug. 28, 1998) ("Bell Atlantic Comments").

[6] Comments of AT&T Corp. on Model Platform Development Issues, CC Docket Nos. 96-45, 97-160 at 2 (filed Aug. 28, 1998) ("AT&T Comments").

[7] Comments of Ben Johnson Associates, Inc., CC Docket Nos. 96-45, 97-160 (filed Aug. 28, 1998) ("BJA Comments").

[8] Western Wireless Corporation Comments on Model Platform Development, CC Docket Nos. 96-45, 97-160 (filed Aug. 28, 1998).

[9] Notification of Final Date To File Amendments to Cost Models in Universal Service

(Continued...)

models, they should be submitted in their entirety to the Commission and adequate time should be allowed for public comment. Although models other than those the Commission has considered may have merit, the Commission cannot adopt them for general application until all interested parties have had the opportunity to review these models and present their views.

II. CUSTOMER LOCATION SHOULD BE DETERMINED USING A COMBINATION OF ACCURATE GEOCODED DATA AND BCPM'S ROAD-BASED METHODOLOGY.

A. The use of current geocoding data should be limited to serving areas that meet a threshold success rate.

Several parties agree that geocoding can be an effective method of locating customers.[10] However, the commenters have differing views on the surrogate methodology that should be used to locate customers when accurate geocoded data are not available. GTE, Bell Atlantic, and the Joint Sponsors all recommend using geocoded data for regions with highly successful geocoding rates and BCPM's road-based methodology for more rural areas.[11] Moreover, GTE agrees with the Joint Sponsors' statement that "mixing estimated locations with geocoded locations can

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(...Continued)
Proceeding for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45, 97-160 (Public Notice) (rel. Feb. 3, 1998) ("Public Notice").

[10] *See, e.g.*, GTE Comments at 5; AT&T Comments at 3; Joint Comments of BellSouth Telecommunications, Inc., U S WEST, Inc., and Sprint Corporation to Common Carrier Bureau Request for Comment on Model Platform Development, CC Docket Nos. 96-45, 97-160 at A-2 (filed Aug. 28, 1998) ("Joint Sponsors Comments").

[11] *See* GTE Comments at 8; Bell Atlantic Comments at 3; Joint Sponsors Comments at A-3.

create clusters with unnatural distribution."[12] This is one of the problems with the HAI Model, which combines geocoded data with arbitrary surrogate points throughout all density zones. Further, as GTE has previously explained and as confirmed by BJA, the HAI Model starts out with detailed customer location data, but subsequently discards most of that information once the clusters are formed – essentially negating the geocoding effort.[13]

To be useful, geocoded data must be accurate. GTE's recommendation that other local utilities be enlisted to help develop an accurate geocode database merits serious consideration.[14] Contrary to AT&T's assertion that the geocoded data utilized by the HAI Model are reliable,[15] GTE has shown in detail the problems with the HAI Model sources, including the fact that the information is not available for public review.[16]

As explained in its Comments, GTE recommends using BCPM's road-based methodology for serving areas where geocoding has a low success rate to ensure that customer location is accurately computed for more rural areas.[17] GTE recommended that the threshold for use of BCPM be wire center serving areas with less than 20,000

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[12] Joint Sponsors Comments at A-7.

[13] GTE Comments at 6-7; BJA Comments at 8.

[14] GTE Comments at 9.

[15] AT&T Comments at 2.

[16] *See* GTE Comments at 6-7.

[17] As GTE has previously stated, rural route and post office box addresses, even if properly geocoded, do not necessarily correspond to actual customer location. (*See* Comments of GTE, CC Docket Nos. 96-45, 97-160 at 4-5 (filed June 1, 1998).

lines.[18] The Joint Sponsors suggested a threshold of 80-85 percent geocoding success.[19] However, GTE's and the Joint Sponsors' recommendations are effectively the same – GTE's 20,000-line threshold corresponds to a 75-80 percent geocoding success rate.[20] Although they represent the same level of accuracy, GTE believes that a wire center line test will be easier to administer than determining the accuracy of geocoded data in each wire center separately.

B. BCPM's road-based methodology is more precise than geocoding for areas with lower customer density.

AT&T "agrees that a road-based customer location approach [like that used in BCPM] is reasonable,"[21] but expresses concern over the possibility that customers may be located along all roads and that populated roads do not exhibit equal customer dispersions.[22] These concerns lack merit. First, BCPM's road-based methodology of locating customers excludes the type of roads that are likely to be devoid of customer premises.[23] Second, it is highly unlikely that applying density weights to different types

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[18] GTE Comments at 8-9.

[19] Joint Sponsors Comments at A-3.

[20] *See* GTE Comments, Exhibit 1.

[21] AT&T Comments at 3-4.

[22] MCI expresses the same concerns. Comments of MCI Telecommunications Corporation, CC Docket Nos. 96-45, 97-160 at 3-4 (filed Aug. 28, 1998).

[23] BCPM documentation states that "[r]oad data used in BCPM 3.1 exclude all limited access highway segments; all highway and road segments that are in a tunnel or in an underpass; vehicular 'trails' and roads passable only by 4 wheel drive vehicles; highway access ramps; ferry crossings; pedestrian walkways and stairways; alleys for service

(Continued...)

of roads would provide any improvement over simply relying on the existing exclusion parameters in BCPM, which rule out uninhabitable roads. The roads in rural areas, where road-based customer allocation is most useful, tend to be within the same density zone so it is reasonable to assume the same density for modeling purposes.

Nonetheless, AT&T claims that the uniform dispersion of customer locations along roads will inappropriately increase the estimated costs of providing universal service.[24] GTE agrees with the Joint Sponsors[25] that a customer apportionment approach using road distances provides an unbiased estimate of household locations in the chosen unit of geography. However, it is possible, as the Maine Public Utilities Commission notes,[26] that such an assumption will understate costs.

C. All housing units should be included in a model used to determine universal service costs.

The cost model selected by the Commission must consider the cost of serving all household locations, not just existing subscribers. A carrier of last resort has the obligation to stand ready to serve anyone in its service area. In addition, many households that currently are not subscribers are likely to become subscribers because they are the targets of the new universal service funding proposals.

(...Continued)
vehicles; and driveways and private roads." Model Methodology, Benchmark Cost Proxy Model Release 3.1 at 30 (Apr. 30, 1998 edition).

[24] AT&T Comments at 4.

[25] Joint Sponsors at A-3.

[26] Comments of the Maine Public Utilities Commission, CC Docket Nos. 96-45, 97-160 (Continued...)

BJA's argument that BCPM's use of all household locations and actual lines "inflates" the cost per line[27] is incorrect since forward-looking network costs should cover all household locations. When designing outside plant, carriers give no consideration (because this information is not available) to whether a particular household will immediately subscribe to telephone service. Therefore, forward-looking outside plant costs properly include the costs of serving all potential subscribers. The argument for all household units is even more compelling given that this is a universal service proceeding and the Commission's long-range goal is to achieve 100 percent penetration.

III. HCPM'S CLUSTERING ALGORITHM NEEDS TO BE MORE FULLY EXAMINED.

The commenters generally agree that more time is needed to assess the validity of HCPM's clustering algorithm.[28] Although HCPM offers the user a choice of clustering algorithms, the model developers cite one – the divisive – as most appropriate based on the number of clusters produced and the run-time of the Model. Although these are relevant considerations, accuracy remains of prime importance. GTE agrees with the Joint Sponsors that an evaluation of clustering mechanisms should be based on a set

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(...Continued)
at 2 (Aug. 28, 1998) ("Maine PUC Comments").

[27] BJA Comments at 3.

[28] *See, e.g.*, GTE Comments at 10-11; AT&T Comments at 5.

of reasonable criteria.[29] The model the Commission selects must avoid the subjectivity and unrealistic assumptions of the HAI Model's clustering process.[30]

In its comments, AT&T claims that the HAI Model sponsors and PNR made the clustering algorithm publicly available months ago.[31] However, the 95-page C++ code made available by the HAI Model sponsors is not accompanied by any documentation describing the parameters or the order of code execution, thereby making the code virtually indecipherable. Additionally, neither the front-end input file nor the back-end output file has been made available, which makes it extremely difficult, if not impossible, to review the PNR clustering algorithm. The Commission should continue to insist that data used in any cost model either be publicly available or made available to interested parties under the Commission's Protective Order.

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[29] Joint Sponsors Comments at A-8.

[30] As explained previously, GTE's review of the HAI Model revealed that a substantial portion of its clusters are large enough to include physical barriers such as rivers, mountains, lakes, highways, and right-of-way issues. Yet, the HAI Model developers appear to have selected an optimization technique that conveniently ignores these barriers in order to produce lower costs. Model Description, HAI Model Release 5.0a at 32-22 (Feb. 16, 1998).

[31] AT&T Comments at 4.

IV. THE DISTRIBUTION AND FEEDER PLANT DESIGN USED IN A COST MODEL MUST REFLECT ACTUAL NETWORK NEEDS.

A. HCPM must be modified to include additional distribution and feeder plant costs.

GTE and the Joint Sponsors showed that various network components are either not included or calculated incorrectly in the cost of the local loop produced by HCPM.[32] In order for HCPM to meet the FCC's criteria and to provide an accurate estimate of the costs of providing universal service, the components required for a functional network need to be included in the network designed by HCPM.

GTE supports the use of HCPM's Minimum Spanning Tree ("MST") approach for determining whether distribution cable modeled is sufficient as long as the MST is used as a low-end benchmark.[33] As GTE noted in its Comments, airline mileage simply does not equate to route mileage when placing cable so a conversion factor must be employed.[34] These conversion factors are commonly used by local exchange carriers

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[32] GTE Comments at 17-18; Joint Sponsors Comments, Attachment B – Review of Engineering.

[33] Sprint also has relied on a MST analysis to determine the sufficiency of distribution cable in the HAI Model. *See* Sprint *Ex Parte*, Federal-State Joint Board on Universal Service, CC Docket Nos. 96-45, 97-160 (Apr. 23, 1998). The Joint Sponsors provide their analysis of the feeder and sub-feeder route distance predictions of both the HAI Model and BCPM. Using the MST distance as a benchmark, the feeder route distances predicted by the two models were tested. The Joint Sponsors conclude that both models satisfy the reality check provided by the MST distance. Joint Sponsors Comments at A-11 - A-14. However, GTE is still very concerned with the HAI Model's feeder route estimates for different clusters. As explained by the Joint Sponsors, the degree of variation from the MST distance is much greater in the HAI Model's output than in BCPM's.

[34] GTE Comments at 15.

and more appropriately reflect the amount of outside plant cable that is needed. When possible, the conversion factor should be based on the characteristics of a particular grid, or should at least vary with the density zones of a grid. The Maine PUC's recommendation to use variable road factors is a step in the right direction.[35] If the benefit of using a variable road factor, applied on either a wire center or grid basis, outweighs the costs of compiling such data, this practice would add precision to cost estimates. The road factor, which accounts for the existing road network and other terrain factors, should also be used if HCPM's "Prim algorithm" is turned on for the determination of the distribution plant architecture. Since the Prim algorithm in HCPM operates on the MST concept, an appropriate set of road factors must be used.

B. The microgrid approach is the most practical and reliable way to determine distribution costs.

The Maine PUC suggests that the microgrid methodology be replaced with the locations of modeled drop terminals closest to the customers' actual geocoded locations.[36] The problem remains, however, that current geocoding databases lack reliability. In addition, although this approach may add precision to distribution modeling when combined with reliable geocoded data, the use of drop terminals adds another level of programming difficulty to the model.

HCPM's approach of making the drop lengths a function of customer lot size is an improvement over the set drop lengths, which do not account for variations in lot

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[35] Maine PUC Comments at 4-5.

[36] Maine PUC Comments at 2.

sizes, used in the HAI Model. Although the HAI Model allows different drop lengths to be set for each density zone, the HCPM approach offers a more precise option of treating each populated cell in microgids individually. This feature of HCPM can be implemented without additional data-gathering costs.

C. A model's outside plant output should be tested against route miles, not average loop lengths.

In its comments, MCI states that "AT&T and MCI demonstrated in previous ex partes, in the state proceedings in Nevada and Texas in which actual loop length data were made available the HAI model built more than enough plant to reach all customer locations."[37] GTE disagrees. It is crucial that validation tests include real-world outside plant measures such as actual route miles – not actual average loop lengths. GTE's expert witnesses in state proceedings have shown that actual average loop length is inferior for costing purposes than actual route miles.[38] The appropriate measure for costing purposes is route miles. Only if the route miles are accurate can a model be said to produce reasonable cost estimates.

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[37] MCI Comments at 5.

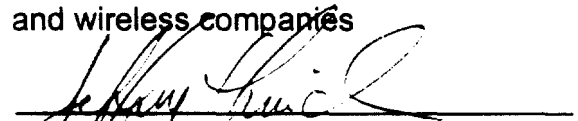
[38] *See, e.g.*, Supplemental Testimony of Francis J. Murphy, Compliance Proceeding for Implementation of the Texas High Cost Universal Service Plan, Docket No. 18515 (June 5, 1998). This testimony is attached hereto as Exhibit 1.

V. CONCLUSION

Of the cost models the Commission has examined, BCPM is generally the most effective proxy model for projecting network costs. It also meets the Commission's ten criteria for evaluating cost models. When combined with the use of reliable geocoded data and perhaps some parts of HCPM, it will produce even more accurate results. However, an auction mechanism would remove all need to consider models of an "efficient" network and would be technology-neutral. Therefore, GTE urges the Commission to consider as soon as possible how to implement an auction mechanism for universal service funding.

Respectfully submitted,

GTE SERVICE CORPORATION and its affiliated domestic telephone operating and wireless companies

By: 

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September 11, 1998

EXHIBIT 1

DOCKET NO. 18515

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COMPLIANCE PROCEEDING FOR IMPLEMENTATION OF THE TEXAS HIGH COST UNIVERSAL SERVICE PLAN	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

SUPPLEMENTAL TESTIMONY

of

FRANCIS J. MURPHY
NETWORK ENGINEERING CONSULTING, INC.

on behalf of

GTE SOUTHWEST INCORPORATED

File Date: June 5, 1998

FRANCIS J. MURPHY

Q. PLEASE STATE YOUR NAME, EMPLOYER AND BUSINESS ADDRESS.

A. My name is Francis J. Murphy. I am employed by Network Engineering Consulting, Inc. ("NECI"). My business address is 5 Cabot Place, Suite #3, Stoughton, MA, 02072.

Q. PLEASE STATE THE CAPACITY IN WHICH YOU ARE EMPLOYED AND YOUR EDUCATIONAL EXPERIENCE AND QUALIFICATIONS.

A. I am a consultant specializing in financial analysis and service costing as they relate to the telecommunications industry. Recently, I submitted testimony and testified before the Alabama Public Service Commission and the South Carolina Public Service Commission and have testified before the Texas Public Utilities Commission in this proceeding. My testimony in these states has been based on my analysis of HAI Model, Release 5.0. Previously I was employed by Financial Strategies Group ("FSG") and testified on behalf of GTE relative to the Hatfield Model, Version 3.1 in proceedings before the Public Utilities Commission of the State of Hawaii, before the Washington Utilities and Transportation Commission, before the New Mexico State Corporation Commission, and before the Oregon Public Utility Commission in response to AT&T/MCI's Non-Recurring Cost Model. Prior to that, I worked for FSG on behalf of their client, Pacific Bell. I was a deponent representing Pacific Bell in the California Public Utilities Commission's ("CPUC") OANAD proceeding, relative to Pacific Bell's Avoided Cost studies in June 1996 and again in October 1997. In the same proceeding, on March 18, 1997, I filed a Declaration with the CPUC relative to an analysis of the Hatfield Model, Version 2.2.2 that I had directed. I also filed a Supplemental declaration relative to the Hatfield Model, Version 2.2.2 with the CPUC

onApril 15, 1997. I worked in the telecommunications industry, with NYNEX Corporation, for over 25 years. In my last NYNEX position, I was a Staff Director responsible for the costing of interstate services, including both recurring and non-recurring cost studies for new and existing services, and for calculating product specific exogenous costs for use in FCC Price Cap Filings. Previous to that, I was responsible for calculating and reporting interstate rate of return results to the FCC. I was also a Network Manager with network operations and budget responsibilities that included central office operations, interoffice facility operations, customer premises installation and maintenance operations, test center operations, and project management. I have attended numerous technical, management, and service cost related courses, including Bellcore sponsored service cost development, and separations and settlement courses. I received a Bachelors Degree in Business Management from Boston College in 1986.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I am responding to Supplemental Staff Questions 2.a and 8.

Q. WHAT ARE THE AVERAGE LOOP LENGTHS CALCULATED BY HAI MODEL 5.0A USING DEFAULT AND STAFF INPUTS FOR THE GTE AND CONTEL WIRE CENTERS SPECIFIED IN ATTACHMENT A TO ORDER NO. 16 IN DOCKET NO. 18515 (SUPPLEMENTAL STAFF QUESTION 2.A)?

A. The average loop lengths calculated in both the default and staff runs of HAI Model 5.0a are provided in Exhibit KCC-1 to GTE witness Collins' testimony.

Q. TO WHAT DO YOU ATTRIBUTE THE DISCREPANCIES BETWEEN THE RESULTS FILED FOR THE HAI MODEL IN RESPONSE TO ORDER NO. 10 (SUPPLEMENTAL STAFF QUESTION 8)?

A. A summary of my analysis appears in Exhibit FJM-1 of my testimony. Based upon this review, a large part of the cost per line discrepancy may be due to the choice of line weighting used in the Universal Service Calculation Sheet in the HAI Model. GTE chose "all switched lines" as the basis for its weighting. If AT&T used "primary residence" this would explain a large portion of the discrepancy, especially for the Contel results.

Q. DO YOU BELIEVE COMPARING THE ACTUAL AVERAGE LOOP LENGTHS TO THE CALCULATED AVERAGE LOOP LENGTH IS A VALID BENCHMARK FOR EVALUATING THE MODELS?

A. In Order No. 16, the Commission has requested that the parties participating in the Universal Service Proceeding perform a comparison of the average loop lengths produced by the models being offered for adoption.[1] This comparison should not be used by the Commission as one of the criteria for choosing a cost model because it does not reflect the manner in which the network is actually built. A more meaningful approach for judging the relative accuracy of a cost model is to make a comparison of total route length. The attached exhibits demonstrate why the total route length approach is more appropriate for comparing cost models.

[1]See Order No. 16 of the Public Utility Commission of Texas, Docket No. 18515, Section 1 & 2, May 29, 1998.

Exhibit FJM-2a: Exchange A contains Wire Center A which serves 1000 customers, all of whom live in a single apartment complex located in the southeast corner of the exchange. As shown on the Exhibit, these 1000 customers all live one mile from the wire center. Hence, the average loop length for the exchange is one mile. Likewise, the total route length is one mile. A simple investment analysis was performed using the aerial structure, and pole and cable cost [redacted] in the HAI Model 5.0a. As [redacted] on Exhibit FJM-2c, this analysis produced an average loop investment of $76.29, and a total loop investment of $76,287 for this exchange.

Exhibit FJM-2b: Exchange B, like Exchange A, contains 1000 customers. The difference between these exchanges is that the customers in Exchange B are not all located in a single apartment complex. Rather, they are spread throughout the exchange. As depicted on the exhibit, the average loop length for Exchange B is the same as Exchange A, one mile. This is not the case for total route length. The total route length in this exchange is six miles - five miles more than that of Exchange A. When the same analysis used in Exhibit 1 was performed for this exchange, the average loop investment rose to $208.16 (See Exhibit 2c). Similarly, the total investment increased to $208,164.

This simple comparison highlights the danger of using average loop length as the basis for judging model accuracy. Consequently, GTE recommends the use of a total route length for comparing cost model accuracy.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

EXHIBIT FJM-1

GTE SOUTHWEST INCORPORATED

The Commission has requested that the parties explain the discrepancies in the results filed in response to Order Nos. 10 and 11. The results that were produced by GTE, when running the Hatfield Model with inputs recommended by the staff, varied from the results submitted by AT&T in the following areas:

Discrepancy No 1:

Annual Support Based on WC for Contel Offices

	GTE Hatfield Results	AT&T Hatfield Results	Difference GTE less AT&T Results
Benchmark One:	$112,115	$113,607	$(1,492)
Benchmark Two:	$85,477	$86,936	$(1,459)
Benchmark Three:	$105,746	$107,237	$(1,491)
Benchmark Four:	$96,550	$98,035	$(1,485)
Benchmark Five:	$99,062	$100,548	$(1,486)
Benchmark Six:	$104,373	$105,860	$(1,487)
Benchmark Seven:	$100,586	$102,072	$(1,486)

Discrepancy No. 2:

Average Cost Per Line Per Month

	GTE Hatfield Results	AT&T Hatfield Results	Difference GTE less AT&T
GTE	$31.15	$33.47	$(2.32)
Contel	$75.25	$85.41	$(10.16)

Using information provided by AT&T in response to Order No. 10, GTE has attempted to explain the discrepancies in the data filed by AT&T. To that end, GTE performed the following analyses:

1. GTE discovered no keying errors related to changing the default values in the Model to the inputs recommended by the staff.

2. Since a large part of the discrepancy in results is found in the Contel results, and there is a problem with the wire center FRCYTXAA in the Contel territory (as noted by the Commission staff in Supplemental Question 4 (i)), it is possible that a portion of the differentiation could be explained by the problem with this wire center. AT&T's response to No. 4 (i) should confirm if the problems with this wire center account for some or all of the discrepancies regarding Contel wire center results.

3. GTE performed an analysis to determine if the difference in the average cost per line per month could be attributed to the line weighting used in the Universal Service Calculation Sheet found in the Hatfield Model. GTE's average cost per line per month was developed by choosing "all switched lines" as the basis for the weighting used to develop the costs. GTE performed a sensitivity that used "primary residence lines" rather than "all switched lines". When GTE made this change, the results that were produced were very similar to those filed by AT&T in response to Order 10. The results are as follows:

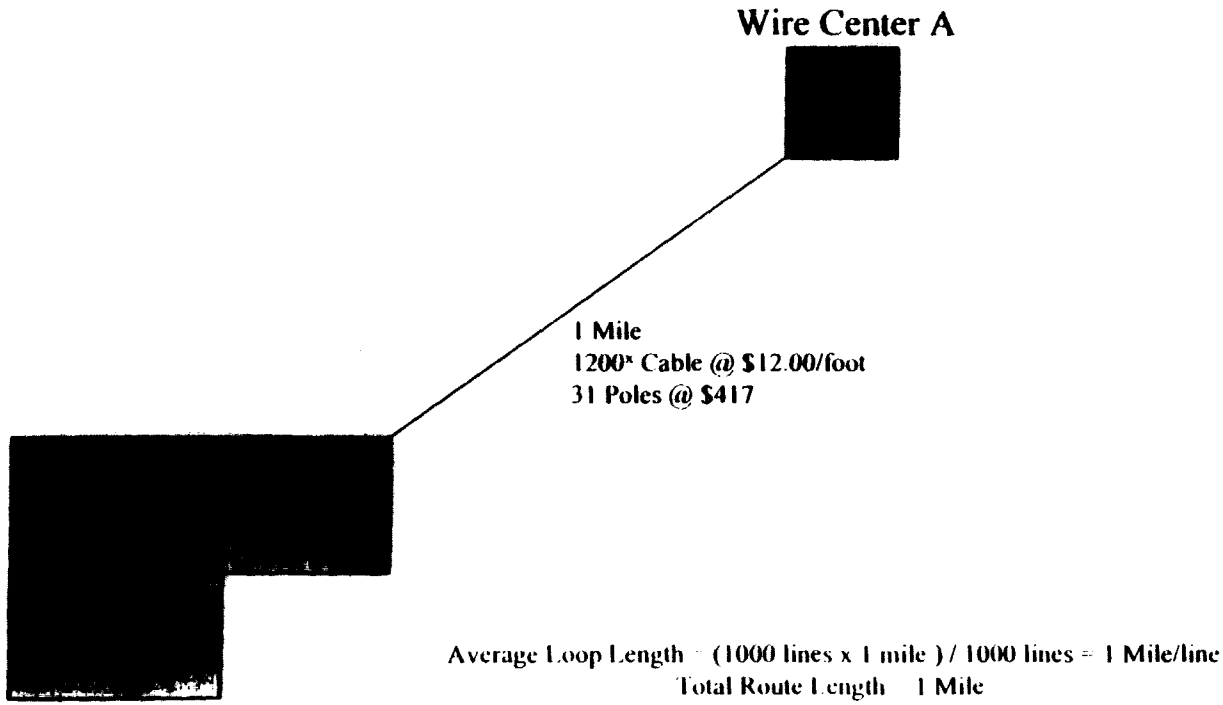
GTE	$34.43/line/month
Contel	$85.21/line/month

These values are very close to the values submitted by AT&T ($33.47 and $85.41 respectively). Since AT&T did not indicate in its response the weighting used to develop results, GTE was not able to determine if the differences in results can in fact be attributed a different weighting scenario used in the Universal Service Calculation Spread Sheet.

The limited input information available in response to Order 10 has hampered GTE's ability to perform more in-depth analysis that could lead to an explanation of the discrepancies in the results.

4. Finally, GTE has noted a discrepancy between a generic, nationwide HAI 5.0a diskette and the Texas-filed HAI Model 5.0a diskette. While the database for both appears to be the same, the code differs. It is possible that one of the parties used a diskette containing code that differs from that filed with this Commission.

Exchange A



Average Loop Length = (1000 lines x 1 mile) / 1000 lines = 1 Mile/line
Total Route Length = 1 Mile